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PLEASURE AND PAIN.

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PLEASURE AND PAIN.

THE guiding and developing power of pleasure and pain is old as animate nature, coexistent with primordial protoplasm, which, without these influences, would quickly have ceased to be. The world could be filled, perhaps, with sentient beings only through the perpetual action of pleasure and pain.

The philosophy of pleasure received especial attention, beginning about 400 B.C., at the hands of the Epicureans and Stoics.

The theory of Epicurus was that all animals seek that which gives pleasure and shrink from those things which produce discomfort and pain; that they are so constituted that pleasure benefits; that pleasure strictly conforms to the principles of their constitution; that pleasure is the object of life.*

The Stoics feigned to look upon the Epicureans as beneath them, and propagated evil reports with a design to injure them respecting their morals.

Epicurus, however, when speaking of pleasure, did not intend the pleasures of the abandoned, the dissolute, and the sensuous, but taught his pupils to study, that life should be so lived, that the body avoid pain and the mind be saved from agitation and disorder. That intelligence will thus be acquired, giving judgment to follow pleasures neither too ardently nor too negligently.

The four canons of Epicurus are as follows:

1. The pleasure which produces no pain is to be embraced.
2. The pain which produces no pleasure is to be avoided.
3. The pleasure is to be avoided which prevents a greater pleasure or produces a greater pain.
4. The pain is to be endured which averts a greater pain or secures a greater pleasure.

The true Epicurean theory of morals bears an honorable character, even though pleasure is its corner-stone.

Mr. Grant Allen, who has written deeply upon pleasure and pain, states "the true principle of connection of emotional feelings with

* An eminent preacher in his catechism recently defines evil to be "all wrong and suffering."



physical states to be that pleasure may be regarded as the concomitant of a normal amount of activity in any portion or the whole of the organism, and, as all activity implies a waste of tissue, pleasure is to a certain extent concomitant with a decrease of vital function. The limit at which such waste of tissue ceases to be pleasurable, and begins to be painful, is the point where the waste exceeds the ordinary power of repair.

"In the muscular sensibility we see at once that pleasure is the resultant of activity after repose. As soon, however, as the exercise has been continued to a point beyond the repairing powers of the system, massive Pain, known as fatigue, sets in.

"The strongest pleasures result from the stimulation of the largest nervous organs, whose activities are most intermitted, as in the case of the alimentary and reproductive senses. The weakest pleasures are those of the most universally stimulated organs, as in the tactual and thermal senses. Intermediate between these come the pleasures of sight and hearing, which are comparatively intermittent in their activities, and whose stimulations are pleasurable in proportion to the infrequency of their occurrence. In short, the amount of pleasure is probably in the direct ratio to the number of nerve fibres involved, and in the inverse ratio of the natural frequency of excitation.

"It may be asked, how comes it that some deleterious acts are pleasant, and some useful ones painful? Paradoxical as it may seem, the answer is, they are not. There are no such cases. Every act, so long as it is pleasurable, is in so far a healthy and useful one; and conversely, so long as it is painful, a morbid and destructive one. The fallacy lies in the proleptic employment of the words 'deleterious' and 'useful.' The nervous system is not prophetic. It informs us of what is its actual state at the moment,—not what the after-effects of that state will be. If we take sugar of lead, we receive at first a pleasant sensation of sweetness, because the immediate effect upon the nerves of taste is that of a healthy stimulation. Later on, when the poison begins to work, we are conscious of a painful sensation of griping, because the nerves of the intestines are then being actually disintegrated by the direct or indirect action of the irritant. The higher organisms have gone on establishing a consensus between the various organs of the body, so that at last, for the most part, whatever will prove deleterious to any organ proves deleterious also to the first nerves of the organism which it affects; and such a harmony between the organs, once partially established, is continued and strengthened by the living and multiplication of those having this harmony. Now, acetate of lead does

not occur at all frequently in nature, and moreover it closely resembles in its action upon the nerves of taste a commonly diffused and highly nutritious substance,—sugar. Consequently, our nerves of taste, which have been so developed as to be normally stimulated by sugar, are similarly stimulated by the poisonous acetate. It is only when the internal nerves are acted upon that the difference begins to be perceived ; and then the pain gives an unfailing indication of disintegrative action.

“Indeed, the whole development of the special senses is a continuous adaptation of the organism to the environment, one of whose phases necessarily consists in the establishment of a consensus between the external peripheral and those of the internal organs. Just as sight is a ‘premonitory touch,’ and smell a premonitory taste, so taste itself is premonitory to the effect which the food will produce upon the digestive and assimilative systems.

“Such adaptation can only be approximate, at least until that final future equilibration when the organism has in every way adapted itself to every possible modification of the environment.

“However, in the vast majority of cases, the consensus between the organs is such, that whatever is prejudicial or beneficial to the organism as a whole, is generally painful or pleasurable respectively to the separate organs which it is likely to affect.”

The question, What are the intrinsic natures of pleasures and pains ? seems to be so far unsolved. But Spencer sets down three allied facts to indicate where the answer may be looked for, as follows : “Pleasures, to a large extent, are separate from, and additional to, the feelings with which we habitually identify them. A glow of delight accompanies the sight of a fine color ; but after having the color before the eyes for a long time, there remains only the consciousness of its quality,—the delight is gone. Similarly, if I go on tasting something sweet, there comes a time when the gratification ends, though the sense of sweetness continues. Doubtless the sense of sweetness itself eventually becomes deadened, but the gratification gives place to nausea before this happens.

“The second of these allied truths is, that pleasures and pains may be acquired—may be, as it were, superposed on certain feelings which did not originally yield them. Smokers, snuff-takers, and those who chew tobacco, furnish familiar instances of the way in which long persistence in a sensation not originally pleasurable makes it pleasurable,—the sensation itself remaining unchanged. The like happens with various foods and drinks, which, at first distasteful, are afterwards greatly relished if frequently taken.

"The third of these allied truths is, that pleasures are more like one another than are the feelings which yield them. The wave of delight produced by the sight of a grand landscape is qualitatively much the same as that produced by an expressive musical cadence."

Our sensations of heat and cold are almost entirely governed by the previous condition of the parts affected, as shown by the well-known experiment of putting one hand into hot water, the other into cold, and then transferring both into tepid water, which will seem cool to one hand and warm to the other.

The same is true in regard to light and sound, smell and taste. A beautiful example of rest, change, and intermittent activity, as elements in the production of pleasure, is the following from Mr. Grant Allen. He believes that the mode of perception of musical tones is probably by sympathetic vibration aroused in Corti's organ, the elastic appendages to the nerve-terminations in the cochlea, his proposition being as follows: "As any single pure tone can only excite such sympathetic vibrations in a single one of Corti's organs (or rods of Corti), we not only see the reason why so large a number of tones are intellectually discriminable, but also why musical tones are in themselves more pleasant to us than mere noises. While the outer portion of the ear, which probably responds to the wide range of undulations giving rise to noises, is constantly undergoing stimulation, each one of Corti's organs, being limited in its sympathy to a very small range of vibrations, is comparatively seldom excited by its proper irritant. Hence we may conclude that the corresponding fibre and the connected portions of the auditory centre are usually in that high state of nutrition which is the condition precedent of pleasurable stimulation. Accordingly, we find that almost all the more distinctly pleasurable sounds, such as the song of birds, the human voice, and the tones of various musical instruments, are made up of vibrations of the periodic sort."

If Mr. Allen be right, it will be necessary, in order to have a trained and correct ear, that all the rods of this organ of Corti receive molecular motion. It will not suffice that one rod be set in vibration by one length of wave, since that rod would soon be fatigued, pleasure would not result, but great discomfort instead,—an effect similar to the nausea from continued tasting of sweets.

It is requisite rather, in order to provide pleasure for the organ of hearing, that musical tones, embracing a wide compass (aërial impulses in great variety of wave-length), reach Corti's organ; that all rods may, intermittently, receive exercise, and also that all may be given periods of repose, thereby attaining the high state of

nutrition which must be reached before pleasure can be realized from the exercise of their function. Intermittent exercise, or exercise and repose of a function or tissue, means a change for that function or tissue. It is, doubtless, within the bounds of truth to say that in order to produce pleasure, a change in the activity of the organism is necessary; that the action of one function or tissue must alternate with the action of some other function or tissue: in other words, that pleasure is a result of change; that change must precede pleasure. If this be so, and pleasure and happiness be the object of existence, the practical importance of change, as a factor in every-day life, is indeed great.

Quain's *Anatomy*, ninth edition, states: "According to Waldeyer, there are altogether in the human cochlea about 6000 of the inner rods of Corti, and 4500 of the outer rods. This makes 10,500 rods of Corti." Man is, therefore, made out to be not only a "harp of thousand strings" (according to the song of Isaac Watts in the eighteenth century), but his ear alone is found to be a harp of 10,500 strings.

The savage was enchanted with his song and instrument* having the compass of a very few notes: he was satisfied with, and found great pleasure in, symphonies obtained from those sources. His organ of Corti would, with great probability, exhibit as little development as the lobes of his cerebrum.

Professor Bain formulated the law that "states of pleasure are connected with an increase, states of pain with an abatement of some or all of the vital functions." This he called the "law of self-conservation," because without it the system cannot be maintained. His examination after Sir Charles Bell of the two great convulsive outbursts, laughter and sobbing, gives support to his law: "The one signifies the accession of vital force; the other, loss, failure, or deprivation of energy. In both cases there may be energetic displays; but while the energy of laughter leaves no sting behind, the energy of convulsive grief is succeeded by utter prostration."

Law-makers discuss punishments "painfully deterring, and yet not injurious to the convict's health."

A contradiction of terms, if it be true, as Professor Bain affirms, that "there is, if any, the barest margin between the infliction of pain and the destruction of vital power."

* Both their songs and instruments are said seldom to have extended beyond "the interval of the fifth."

Governing by force, by infliction of pain, or the fear of pain, will, as humanity advances in perfection, surely, if slowly, be replaced by measures growing out of reason and intelligence.

Commissioner Henry P. West, in a recent report to the New York Board of Education, states: "Corporal punishment is fast disappearing in penal institutions, in many cases by legislative enactment, and will soon be known as a thing of the past among civilized nations. Harsh or cruel treatment was never known to effect a permanent reform."

Herbert Spencer, upon this point, remarks: "The main obstacle to the right conduct of education lies rather in the parent than in the child. It is not that the child is insensible to influences higher than that of force, but that the parent is not virtuous enough to use them."

Precisely what takes place when pleasurable emotional excitement induces a state of physical efficiency and increase of vital force,* is at present not clearly made out by psychologists and mental physiologists, and may never be, any more than the intrinsic natures of pleasures and pains, for the nervous distribution is so intricate, the reflexes so bewildering, that man's mental grasp is inadequate to unravel the maze.

The operation of this law may be observed in many irregular (and sometimes regular) methods of treatment applied for the relief of humanity's afflictions, and credit for improvement given to the "method," which truly belongs to the natural agents,—change in scene, in climate, in diet, in environment, and the positively convalescing influence of hopeful expectation, bringing to the sufferer a real accession of nervous force, with the attending marks of improvement.

* The writer directed a note to a well-known scientist, psychologist, and physician (author of "The Nature of Mind and Human Automatism"), seeking his views "in regard to the production of nerve-force by pleasurable emotions, and its decrease by painful mental states."

His reply, coming too late for reading with this paper, was as follows: "That states of pleasure tend to increase the vital powers, and to enable the body to do more work, is a physiological fact founded upon experience. *How* all this takes place is something which nobody knows, and we must at best resort to speculation for an answer. We may, however, at least say that states of pleasure act as stimulants to the various nervous centres, while states of pain tend to inhibit them.

"Perhaps there are special inhibitory fibres, like the vagus nerve, or those running from the brain to the cord, which come into play.

"This is about all we can say about it; though this speculative view may be considerably extended, and much that is probable adduced."

These cognivies were not
made primarily as a
study of the general laws
of pleasure & pain but
to throw light if possible
upon the question in foot
note page 6 -

Dr. J. H. Chandler

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